

## REMARKS

Claims 1-23, 25 and 26 are pending. By this Amendment, claims 1, 12, 25 and 26 are amended. Reconsideration and allowance in view of the above amendments and following arguments are respectfully requested.

Applicants appreciate the courtesies extended by Examiner Pous and Supervisory Patent Examiner Nguyen to Applicants' representative during the interview conducted March 26, 2007. A summary of the interview is incorporated into the remarks below.

Claims 1-3, 5-7 and 11 were rejected under 35 U.S.C. §103(a) over Wijeratne et al. (U.S. Patent 6,036,670) in view of Berg et al. (U.S. Patent 5,911,715). The rejection is respectfully traversed.

Claim 1 recites a catheter comprising a proximal shaft; a distal shaft connected to a front portion of the proximal shaft; a hub provided to the rear side of the proximal shaft; a balloon connected at a front portion of the distal shaft; an inner tube shaft coaxially extending through the distal shaft and the balloon and connected to a distal end of the balloon; a balloon lumen for communicating the hub to the inside of the balloon; and a guide wire lumen for allowing a guide wire to be inserted through the guide wire lumen. At least the front portion, positioned on the rear side from the balloon, of the distal shaft is configured as a grooved portion having a groove. The grooved portion has a distal end located near a connection portion between the balloon and the distal shaft and extending toward a proximal side of the distal shaft.

As discussed during the interview, Wijeratne et al. do not disclose or suggest a catheter comprising a distal shaft wherein at least the front portion the distal shaft

is configured as a grooved portion have a groove, as recited in claim 1. The outer body tube 22 of Wijeratne et al., which the Office Action identifies as corresponding to the distal shaft of claim 1, clearly does not comprise a grooved portion. Wijeratne et al. also fails to disclose or suggest an inner tube shaft coaxially extending through a distal shaft and a balloon and connected to a distal end of the balloon, as recited in claim 1.

As also discussed during the interview, Berg et al. fails to cure the deficiencies of Wijeratne et al. with respect to claim 1. In particular, Berg et al. also fail to disclose or suggest a catheter having a distal shaft which is connected at a front portion to a balloon and wherein at least the front portion of the distal shaft is configured as a grooved portion having a groove.

Berg et al. disclose that the guide catheter 54 includes a transition zone 61 which is used to change the flexibility of the guide catheter 54 at desired locations along the shaft 56. See column 8, lines 30-47 of Berg et al. Berg et al. do not disclose or suggest providing a transition zone to any portion of the dilation catheter 52, and in particular do not disclose or suggest providing a grooved portion to a distal shaft which is connected at a front portion to a balloon of the dilation catheter 52. Accordingly, even assuming it would have been obvious to combine Wijeratne et al. and Bert et al., which Applicants do not concede, such a combination would not include the feature of a distal shaft connected to a balloon, wherein at least the front portion of the distal shaft is configured as a grooved portion having a groove, and the grooved portion has a distal end located near a connection portion between the balloon and the distal shaft and extending toward a proximal side of the distal shaft. As the combination of Wijeratne et al. and Berg et al. would not include all the

features of claim 1, the combination would not present a *prima facie* case of obviousness. See MPEP §2143.

During the interview, Examiner Pous noted that Figure 9 of Berg et al. shows a transition zone 61 near a distal end 60 of the shaft 56. However, as discussed during the interview, the transition zone 61 of Berg et al. is provided in the guide catheter 54, not in the dilation catheter 52. Examiner Pous also noted that the distal end 60 of the guide catheter 54 is provided near a portion where the dilation catheter 52 extends from the guide catheter 54 and that this portion may be broadly interpreted as a connection portion.

As noted by the undersigned during the interview, claim 1 recites that the grooved portion is configured on the distal shaft which is connected to the balloon. Figure 9 of Berg et al. merely discloses a transition zone formed on a guide catheter 54, and does not disclose or suggest to one of ordinary skill in the art anything regarding the connection of the balloon of the dilation catheter 52 to a distal shaft of the dilation catheter. Therefore, at best, the suggestion of Figure 9 of Berg et al. is to provide a transition zone in a guide catheter at a distal end of a guide catheter. Berg et al. do not disclose or suggest a grooved portion having a distal end located near a connection between a balloon and a distal shaft which is connected to the balloon wherein the guide portion extends toward a proximal side of the distal shaft.

Claims 2, 3, 5-7 and 11 recite additional features of the invention and are allowable for the same reasons discussed above with respect to claim 1 and for the additional features recited therein.

Reconsideration and withdrawal of the rejection of claims 1-3, 5-7 and 11 over Wijeratne et al. in view of Berg et al. are respectfully requested.

Claims 1, 2, 7, 8, 10-14, 16-20, 22 and 23 were rejected under 35 U.S.C. §103(a) over Keith (U.S. Patent 5,217,482) in view of Berg et al. The rejection is respectfully traversed.

Keith does not disclose a catheter comprising a distal shaft and a balloon connected to a front portion of the distal shaft, wherein at least the front portion of the distal shaft is configured as a grooved portion having a groove and the grooved portion has a distal end located near a connection portion between the balloon and the distal shaft and extending toward a proximal side of the distal shaft, as recited in claim 1.

As discussed during the interview, the distal shaft section 66 of Keith is sealably affixed at its proximal end to the shaft section 64 and is crimped at its distal end to form the bonding region 74 which is connected to the outer sleeve 82 and the inner core tube 80. There is no disclosure or suggestion of the distal shaft section 66 including a grooved portion, nor is there any disclosure or suggestion of the outer sleeve 82, which is connected to the balloon 26, including a grooved portion.

As also discussed during the interview, Berg et al., fails to cure the deficiencies of Keith. Berg et al. disclose providing a transition area to a guide catheter 54 to change the flexibility of the guide catheter at desired locations along the shaft 56. However, Berg et al. do not disclose or suggest providing a grooved portion to a distal shaft that is connected to a balloon such that the grooved portion has a distal end located near a connection portion between the balloon and the distal shaft and extending toward a proximal side of the distal shaft, as recited in claim 1. Therefore, even assuming it would have been obvious to combine Keith and Berg et

al., which Applicants do not concede, such a combination would not include all of the features of claim 1 and would not present a *prima facie* case of obviousness.

Independent claim 12 recites a catheter comprising a distal shaft and a balloon connected on a front side of the distal shaft so as to be in fluid communication with the distal shaft and configured to receive pressure applied from a hub. At least a distal portion of the distal shaft is configured as a grooved portion having a groove and the grooved portion as a distal end located near a connection portion between the balloon and the distal shaft and extending toward a proximal side of the distal shaft.

Neither Keith nor Berg et al. disclose or suggest a distal shaft connected to a balloon, wherein at least a distal portion of the distal shaft is configured as a grooved portion having a groove, as recited in claim 12. Neither Keith nor Berg et al. discloses or suggest that the groove portion has a distal end located near a connection portion between the balloon and the distal shaft and extending toward a proximal side of the distal shaft, as recited in claim 12. Therefore, the combination of Keith and Berg et al. does not include all of the features of claim 12 and does not present a *prima facie* case of obviousness.

Claims 25 and 26 each recite a catheter comprising a distal shaft and a balloon provided at a front portion of the distal shaft. The grooved portion having a groove is formed in a front portion of the distal shaft, and the grooved portion has a distal end located near a connection portion between the distal shaft and the balloon and extends toward a primal side of the distal shaft.

As discussed above, the combination of Keith and Berg et al. would fail to include, at least, these features recited in claims 25 and 26 and would fail to present a *prima facie* case of obviousness against the claims.

Claims 2, 7, 8, 10, 11, 13, 14, 16-20, 22 and 23 recite additional features of the invention and are allowable for the same reasons discussed above with respect to claims 1 and 12 and for the additional features recited therein.

Reconsideration and withdrawal of the rejection over Keith in view of Berg et al. are respectfully requested.

In view of the above amendments and remarks, it is respectfully submitted that all of the claims are allowable and the entire application is in condition for allowance.


Should the Examiner believe that anything further is necessary to place the application in condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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